



**PATENT APPLICATION**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re application of

Docket No: Q80212

Shoichiro YASUNAMI, et al.

Appln. No.: 10/791,559

Group Art Unit: 1752

Confirmation No.: 3278

Examiner: Hoa Van Le

Filed: March 3, 2004

For: POSITIVE WORKING RESIST COMPOSITION

**DECLARATION UNDER 37 C.F.R. § 1.132**

Mail Stop Amendment  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 223 3-1450

Sir:

I hereby declare and state:

THAT, I am the same Fumiyuki Nishiyama who is a 1.132 declarant on a Declaration Under 37 C.F.R. 1.132 executed by me on June 13, 2006, and filed herein on June 13, 2006, and my personal history is the same as set forth in that declaration with the exception that the name of my employer has been changed to FUJIFILM Corporation;

THAT, in my earlier Declaration, I have set forth the results of Examples Ex. a, Ex. b and Comparative Ex. a'. Furthermore, in a 1.132 Declaration filed herein by declarant Shoichiro Yasunami on November 17, 2005, and executed by him on October 18, 2005, he has reported the results of Examples Comparative Ex. 1 and Comparative Ex. 2;

THAT, I have read and understood the INTERVIEW SUMMARY dated March 22, 2007, and in response to the Examiner's points (1) to (4), I report below in tabular form the results of

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the above-noted experiments plus additional experiments carried out at this time, all in  
accordance with the procedure of Example 1 of the present application.

TABLE I

	Resin	Sulfonic acid	Carboxylic acid	Nitrogen- containing basic compound
Ex. a	Resin A	PAG-A (5.5wt%)	D-1 (0.4wt%)	E-1 (0.3wt%)
Ex. b	Resin A	PAG-A (19.5wt%)	D-1 (0.7wt%)	E-1 (0.3wt%)
Ex. c	Resin A	PAG-A (5.5wt%)	D-1 (0.06wt%)	E-1 (0.3wt%)
Ex. d	Resin A	PAG-A (5.5wt%)	D-1 (1.0wt%)	E-1 (0.3wt%)
Ex. e	Resin A	PAG-A (5.5wt%)	D-1 (1.6wt%)	E-1 (0.3wt%)
Ex. f	Resin A	PAG-A (19.5wt%)	D-1 (2.1wt%)	E-1 (0.3wt%)
Ex. g	Resin A	PAG-A (19.5wt%)	D-1 (2.7wt%)	E-1 (0.3wt%)
Comparative Ex. a'	Resin I	PAG-A (5.5wt%)	D-1 (0.4wt%)	E-1 (0.3wt%)
Comparative Ex. 1	Resin A	PAG-A (4.0wt%)	-	E-1 (0.3wt%)
Comparative Ex. 2	Resin A	PAG-A (4.0wt%)	D-1 (0.4wt%)	E-1 (0.3wt%)

Resin A: Resin used in Example No. 6 of Uenishi et al.

Resin I: Resin containing a repeating unit represented by formula (1) in which R<sub>1</sub>, R<sub>2</sub> and R<sub>3</sub> represent a hydrogen atom; n represents 0; R<sub>4</sub> represents a methyl group; and Z represents C<sub>2</sub>H<sub>5</sub>.

PAG-A: Sulfonic acid generator used in Example No. 6 of Uenishi et al.

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The other reference numbers and symbols are according to the present specification. The compositions were prepared and the evaluation were carried out according to Example 1 of the present specification. The evaluation results are shown in the Table 2 below.

Table 2

Example No.	Resolution ( $\mu\text{m}$ )	Pattern shape 3-Grade evaluation	Line edge roughness (nm)
Ex. a	0.09	Rectangular	5.3
Ex. b	0.09	Rectangular	4.2
Ex. c	0.09	Rectangular	5.1
Ex. d	0.08	Rectangular	5.2
Ex. e	0.09	Rectangular	5.1
Ex. f	0.08	Rectangular	4.1
Ex. g	0.09	Rectangular	4.2
Comparative Ex. a'	0.10	Taper	7.0
Comparative Ex. 1	0.15	Taper	12.0
Comparative Ex. 2	0.10	Slightly taper	6.5

THAT, in my opinion, the above test results confirm the patentability of the claims of the instant application, especially with the amendment of the claims to recite an amount of carboxylic acid generator D of from 0.05 to 3 % by weight, with the test examples representing the present invention employing amounts by weight of the carboxylic acid generator approaching nearly the lower limit and the upper limit of that range, plus intermediate values, all with use of Resin A. In addition, the above comparative experimentation establishes the criticality of the amount of sulfonic acid generator, employing amounts very near the lower and upper limits of the range for the sulfonic acid generator set forth in the claims of the present application, plus comparative examples with an amount of sulfonic acid generator close to but below the lower limit of the claims. In my opinion, I have now confirmed the patentability of the scope of the

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claims of the present application, and have confirmed the importance of the claimed ranges for both the sulfonic acid generator and the carboxylic acid generator.

I declare further that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Date: April 2, 2007

Fumiyuki Nishiyama  
Fumiyuki Nishiyama

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